

SHELL OIL COMPANY

REFERENCE

PLAINTIFF'S EXHIBIT

SH-544

DATE REC'D:

3/10

PRIVATE & CONFIDENTIAL

DATE MARCH 10, 1972

FROM GENERAL MANAGER
HEAD OFFICE

SUBJECT INDUSTRIAL HYGIENE

REFINERY MANAGERS

ANACORTES ODESSA/CINIZA

HOUSTON THUNDERBOLT

MARTINEZ WOOD RIVER

NORCO

On January 4 of this year, the Occupational Safety and Health Administration (OSHA) announced a "Target Health Hazards Program" aimed at improving workplace conditions where potential may exist for exposure of workmen to five toxic substances - asbestos, cotton dust, silica, lead and carbon monoxide. The program will no doubt result in increased attention by Department of Labor Compliance Officers to these substances when they perform facility inspections. Informational sheets (Attachment 1) have already been prepared by OSEA describing these materials, the hazards associated with them, and control of same. Specific instructions (Attachment 2) have been issued to compliance officers regarding sampling of atmospheres to determine if workmen are being exposed to concentrations in excess of that specified in the OSHA Safety and Health Standards.

In view of the foregoing, it is likely that any inspection of a Shell refinery will include a review of potential employee exposure to asbestos, silica and carbon monoxide. We have not included lead since the "Target Health Hazards Program" is concerned only with inorganic lead and exposure of employees to dust or fumes from this material is considered minimal. In addition to asbestos, silica and carbon monoxide, there are certain other substances which also appear to warrant special attention, since they are commonly encountered in our refineries and were among those covered by the safety and health standards issued on May 29, 1971. These standards specify the maximum level at which continuous exposure (eight hours per day) to each of some 480 air contaminants is permissible without using protective equipment.

Examination of the list indicates some 60 of the 480 contaminants could be encountered in a typical refinery (excluding laboratory facilities). Out of these 60, 12 substances have been selected (see Attachment 3) which we believe are most likely to be involved in any inquiry into how effective our safety programs are in protecting employees from excessive exposure. In designating these specific contaminants, consideration was given to factors such as threshold limit values, how extensive a material is either used in the refinery or in a process, potential for release to the atmosphere, and whether the substance possesses characteristics where its presence in the air would be readily detected at levels below the threshold limit value.

Although in our opinion the exposure levels to refinery employees from airborne contaminants are either well on the safe side or else adequate precautions are being followed involving use of protective equipment, we believe it would be prudent to initiate a program to provide for monitoring

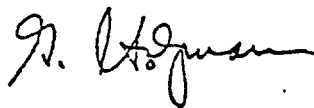
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the atmosphere periodically at locations where the substances listed on the attachment may occur. With the exception of asbestos and silica, sampling for the other materials can be accomplished with conventional detector tubes or other techniques commonly utilized by refinery safety staffs. The analysis for asbestos and silica is somewhat more complicated and we plan to solicit the assistance of industrial hygienists from the Head Office Occupational Safety and Health Department in evaluating exposure of employees to these substances. Initially, such a study will probably be limited to a single location to gain general insight into the severity of exposure. With regard to the other ten substances, we are thinking in terms of all refineries performing measurements quarterly until meaningful trends are established.

This initial effort to document existing levels of hazardous substances and thereby demonstrate that typical refinery exposures are below the allowable TLV's is in anticipation of what we believe will be an accelerating program of monitoring by the Department of Labor. Eventually, industrial hygiene programs may have to be expanded somewhat since the Department of Labor has plans for developing detailed standards for many of the toxic substances and harmful physical agents. Presumably, these will be similar to the one presently proposed for asbestos, which was forwarded to refineries by Manufacturing Engineering with their memorandum of February 1, 1972. It is expected that in some cases the standards will require development of considerable detailed information on exposure of employees to health hazards.

As an adjunct to the proposed program of monitoring outlined above, we have made plans for industrial hygienists from Head Office to survey Wood River Refinery in the near future to determine if some additional action would be warranted at this time in regard to our industrial hygiene programs. While awaiting the outcome of that survey, we would appreciate your reviewing the attached list and transmitting to this office any comments you have pertaining to sampling for contaminants, plus any additional views which you believe should be considered in regard to further action in the area of industrial hygiene.



G. Holzman

Attachment

cc: General Manager - Technical Departments
Assistant to the General Manager - Refineries
Occupational Safety and Health - Manager
Manufacturing Engineering - Manager

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AIR CONTAMINANTS PROPOSED FOR
INCLUSION IN MONITORING PROGRAM

<u>Substance</u>	<u>Threshold Limit Value</u>	
	<u>ppma)</u>	<u>mg/M3b)</u>
Asbestos	c)	

c) Covered by a special emergency standard issued December 7, 1971, which bases threshold limit on maximum of five fibers per milliliter greater than five microns in length, rather than on ppm. A proposed permanent standard recommends same TLV level.

d) Change to 0.05 mg/M³ is proposed.

e) Quartz = $\frac{10 \text{ mg/M}^3}{\% \text{SiO}_2 + 2}$

Cristobalite or tridymite: One-half value for quartz.

f) Change to 100 ppm and 375 mg/M³ is proposed.

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